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COORDINATION PLAN
RED WATER RESERVOIR
CLOSURE CAP
FORMER WEST VIRGINIA ORDNANCE WORKS
MASON COUNTY, WEST VIRGINIA

Prepared for:

U.S. Army Corps of Engineers
Huntington District
Huntington, West Virginia

Prepared by:

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Pittsburgh, Pennsylvania
A Subsidiary of OHM Corporation

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1.0 INTRODUCTION

This Coordination Plan has been developed by OHM Remediation Services Corp. (OHM), a subsidiary of OHM Corporation, for the United States Army Corps of Engineers (COE) Huntington District, Huntington, West Virginia and in accordance with the tasks required by the COE Final Revised Scope of Work for Red Water Reservoir Closure Cap, January 24, 1991, former West Virginia Ordnance Works (WVOW), Point Pleasant, West Virginia. The information presented herein is supplementary to the Work Plan.

1.1 PURPOSE

The purpose of the Coordination Plan is to provide the management approach which has been developed to successfully coordinate and complete the site remediation.
This plan sets forth the major tasks needed to accomplish the project in accordance with the COE's Final Scope of Work.

1.2 DOCUMENT ORGANIZATION

Section 2.0 of the Coordination Plan presents the major tasks and organization structure under which each major task will be implemented. In addition, the authorities and duties of each individual are also presented.

2.0 PROJECT ORGANIZATION STRUCTURE

This section of the Coordination Plan identifies the major tasks and discusses the respective lines of authority of the COE, OHM, and Environmental Science & Engineering (ESE) Laboratory for successful task completion. To illustrate this discussion, the major tasks are presented in Table 2-1. The project organization chart is shown on Figure 2-1. The phases detailed on Table 2-1 will be completed according to the schedule presented in Figure 2-2.

2.1 RESPONSIBILITIES AND AUTHORITY OF THE CORPS OF ENGINEERS

The COE is the government manager for the WVOW site remediation activities. The primary COE representative is Wren Wilson, Assistant Resident Engineer at the Huntington District Gallipolis field office in Apple Grove, West Virginia. Ms. Wilson will also serve as the liaison officer between OHM and the West Virginia Department of Natural Resources (WVDNR). OHM will not take directions from WVDNR directly; all correspondence must pass through Ms. Wilson. OHM will respond only to instructions received directly from Ms. Wilson or her designated representative.

2.2 OHM RESPONSIBILITIES

The responsibilities of OHM are:

- Perform the remedial activities defined in the Work Plan and required under this contract.
- Prepare and submit to the COE weekly progress reports containing information regarding percentage of completion, unresolved delays (encountered or anticipated) that may affect the schedule and a description of efforts made to mitigate those delays or anticipated delays, revise construction schedule, listing of activities scheduled for the next week, and other information relating to the progress of construction as is customary in the industry.
- Obtain necessary construction permits and licenses.
- Prepare the Work Plan, Coordination Plan, Health and Safety Plan, CQCP, Environmental Protection Plan, Grading Plan, and Sampling Plan.

- Initiate, maintain, and supervise all safety precautions and programs in connection with the work.

- If conflict, error, or discrepancy is found in contract documents, report to the COE representative in writing before proceeding to obtain a written interpretation or clarification from the COE.

- Notify the COE representative in writing of any subsurface or latent physical conditions encountered which differ materially from those specified or indicated.

- Issue a Change Order for approval if the OHM Project Engineer finds that the subsurface or latent physical conditions encountered differ materially from those specified or indicated.

- Conduct surveys for establishing pay limits and determining quantities for progress pay estimates; furnish COE with one copy of all field notes of each survey.

- Provide a Site Supervisor, who will not be replaced without written notice to the COE; the Site Supervisor will be OHM's representative at the site.

- Furnish satisfactory evidence as to the quality of material and equipment (including reports of required testing) used for construction.

- If materials or equipment, or specific means, methods, techniques, sequence, or procedure of construction is indicated in or required by the contract documents, furnish or utilize a substitute acceptable to the COE, if needed.

- Procure subcontractor services; submit the subcontractor and a description of these services to the COE for acceptance.

- Maintain at the site one record copy of all drawings, specifications, addenda, written amendments, change orders, work directive changes, field test records, field orders, and written interpretations and clarifications. Upon completion of the work, deliver these records to the COE.

2.2.1 Responsibilities of OHM's Project Team

The remedial action at the WVOW site will be led by a project-dedicated team, as shown on Figure 2-1, who is responsible for the management and completion of the overall project and the primary components of design and remediation. The organization chart (Figure 2-1) defines the primary "chain of command".

The Project Manager will have the overall responsibility for project efforts including technical, schedule, and budget aspects. The Project Manager will be responsible for the day-to-day management and integration of all elements of the project and will be accountable for each activity. Supporting the Project Manager will be the Deputy Program Manager for administrative functions and the Project Engineer for technician and site activities functions. Supporting the Project Manager in the field will be the Project Engineer, Site Supervisor, Site Safety Officer, Project Control Technician (PCT), and other support personnel.

Because of the many activities required to complete the project, it is necessary that project responsibilities and authorities be defined. Further, to provide control and continuity in the project, it is necessary that personnel understand reporting requirements so that necessary reviews and verifications take place within the time constraints of the project.

Separate from the project management chain of command is the quality control (QC) chain of command under the direction of the QC Engineer. The OHM QC Engineer will work independently of the OHM Project Team.

Responsibilities and authority of the Project Manager and supporting field personnel fundamental to the project are discussed in the following sections. Responsibilities and authority of the QC Engineer are discussed in Section 2.2.2.

2.2.1.1 Project Manager

The Project Manager has the overall responsibility for work efforts during the remediation activities. The Project Manager is the person in charge of the overall project and has full authority for coordination and direction of the project. The Project Manager will communicate directly with the Corps' Contracting Officer. Specific responsibilities of the Project Manager include:

- Interpret and plan overall work effort
- Approve work products, plans, and deliverables

- Overall responsibility for preparation and planning of documents for the work
- Respond to resource requirements by defining resource needs and securing the commitments for staff and equipment
- Monitor subcontractor performance, schedules, budgets, and invoices
- Develop, review, and meet work schedule and budget objectives
- Ensure technical adequacy of field, laboratory, data management, and construction activities
- Prepare for and attend meetings with the Corps of Engineers, as required
- Provide technical guidance
- Manage and coordinate group interfaces
- Document the need for contract modifications, if needed.

To carry out these functions, the Project Manager will have the authority to:

- Make work assignments for staff and subcontractors
- Allocate additional personnel as needed
- Establish work budgets and schedules with milestones
- Approve subcontractor work and invoices
- Approve labor and expense charges to the work budgets
- Communicate with the Site Supervisor about day-to-day activities and alert the Deputy Program Manager and/or the Project Engineer to potential problems
- Maintain OHM quality standards.

2.2.1.2 Project Engineer

The Project Engineer is responsible for performance of remedial and construction activities. Other responsibilities include:

- Day-to-day coordination of engineering activities
- Provide technical guidance
- Ensure technical adequacy of field, laboratory, data management, and construction activities
- Integration of project reporting between different engineering disciplines
- Interfacing with the Project Manager for engineering activities
- Acting as a focal point for coordination of engineering project deliverables
- Approving the appropriate project-specific procedures and the as-built drawings.

2.2.1.3 Site Supervisor

The Site Supervisor is the OHM contact at the site and is responsible for performing the remediation activities in accordance with the project plans and specifications. The Site Supervisor's responsibilities include, but are not limited to:

- Implementing the day-to-day aspects of the Health and Safety Plan
- Coordinating engineering activities at the site as directed by the Project Engineer or Project Manager
- Managing the day-to-day execution of the project at the site including administrative activities
- Implementing state and federal regulations pertinent to the work
- Assisting in preparation of work progress schedules, project reports, "as-built" drawings, and required compliance submittals
- Compiling the daily logs into a weekly report which will be forwarded to the Project Manager
- Attending work progress meetings
- Reporting to the Project Manager changes desired in the contract documents so that

required review and approval can be accomplished prior to when the change is made, and reporting for review and approval changes necessitated by unanticipated site conditions

- Procuring, with approval of the Project Manager, subcontractor services

- Ensuring that remedial rework is subjected to the same quality requirements as the original work.

2.2.1.4 Site Safety Officer

The Site Safety Officer is responsible for implementing the Health and Safety Plan which satisfies federal, state, and local regulations and is consistent with site conditions. The Site Safety Officer may take actions independent of the project group to stop the project, if required, for compliance with the Health and Safety Plan.

The Site Supervisor is responsible for the day-to-day implementation of the Health and Safety Plan during site activities. The Site Safety Officer will oversee this day-to-day implementation, including the following responsibilities:

- Directing the entrance and exit medical physical requirements, if required

- Approval of personnel protective equipment and safety procedures specified in the Health and Safety Plan

- Overseeing the maintenance and use of field monitoring equipment necessary to define on-site hazards associated with remediation

- Designating appropriate personnel protection level; determining protection level upgrades and downgrades as site conditions permit

- Providing necessary guidance to the project staff so they can safely perform their functions in accordance with federal and state regulations.

2.2.1.5 Project Control Technician (PCT)

The responsibilities of the PCT are:

- Assist the Project Manager in preparation of schedules and budgets

- Establish tracking systems to identify schedule and budget variances
- Provide weekly progress reports on budget and schedule status to the Project Manager
- Prepare daily report deliverables
- Audit weekly postings of charges to work budgets
- Assist the Project Manager in communicating work procedures and goals to OHM's staff.

2.2.1.6 Sample Technician

The responsibilities of the Sample Technician are:

- Performing all sampling activities in accordance with the approved protocols.
- Assist the Geotechnician with geotechnical testing, as needed.

2.2.2 Quality Control Engineer

The QC Engineer is independent of the project management chain of command and reports to the USACE on-site representative.

As the Chief QC Representative, the QC Engineer is responsible for coordinating inspection and surveillance activities. The QC Engineer will be supported in this role by a Geotechnician. The Geotechnician will assist in or conduct inspections and/or surveillances to monitor completion and correctness of work performed on site. The QC Engineer and the Geotechnician will monitor the full site activities on a periodic basis. The results of inspections and surveillances will be documented in a report describing the events reviewed that day. The QC Engineer will also be responsible for:

- Reviewing results of on-site verification testing and inspection reports.
- Implementing appropriate provisions of this plan.
- Serving as the collection point for remediation-related nonconformance reports.
- Perform, or cause to be performed, daily inspections and tests of the scope and character necessary to achieve the quality of

construction outlined in the plans and specifications for work under the contract performed on or off site.

- Maintain the latest applicable drawings and specifications with amendments and/or approved modifications at the job site and assure that they are used for shop drawings, fabrication, construction, inspections, and testing.

- Maintain marked-up drawings at the site depicting as-built conditions in accordance with Special Clause 20. The drawings will be available to review by the Government at all times.

- Maintain a Government furnished submittal register, ENG Form 4288, for the duration of the contract. A review of the register will be performed at least every 14 days in conjunction with the scheduled dates on the register and in relation to the actual work status. Appropriate actions will be undertaken should slippages or other changes so necessitate.

- Review shop drawings and/or other submittals for compliance with the contract requirements prior to their transmission to the Government. The ENG Form 4025, which transmits the shop drawings or other items, will be certified in accordance with Special Clause 4.

- Responsibility for inspecting work for compliance with the COE's "Safety and Health Requirements Manual EM 385-1-1," and OHM Safety Program. Deficiencies and/or violations will immediately be brought to the attention of OHM employees and/or subcontractors and corrected.

- Maintain a listing of required operation and maintenance (O&M) manuals and OHM instructional requirements with suspense/action dates.

- Establish and maintain a Deficiency Notice and Master Deficiency List program and a tracking and/or suspense system to monitor and assure inspection and testing activities and frequencies are in accordance with the contract requirements.

- Perform a completion inspection 14 days prior to the Government's prefinal inspection in accordance with the requirements of Special Clause 15.9, Completion Inspections.

- Develop and transmit to the Government 14 days prior to Government's prefinal inspection a complete and factual report of remaining submittals, inspections, tests required, and deficiencies to be corrected prior to acceptance of the work by the Government in accordance with the requirements of Special Clause 15.9, Completion Inspections. Provide notice in report that any deficiencies will be corrected and all remaining work will be completed prior to the prefinal inspection.

- Attend and assist the Government at the prefinal inspection and the final acceptance inspection.

2.2.3 Surveyor

The surveyor is a subcontractor reporting to the OHM Site Supervisor and indirectly to the Project Engineer. He will be responsible for performing site topographic and quantity surveys as directed by the OHM Site Supervisor. The surveyor will provide quantity survey documentation to the QC Engineer for his review. The QC Engineer will compile the quantity data and present it to the Project Engineer.

2.3 ESE RESPONSIBILITIES

The ESE management team consists of the Laboratory Manager and the QA Laboratory Coordinator.

2.3.1 Laboratory Manager

The ultimate responsibility for implementing QA/QC within the ESE Laboratory resides with the Laboratory Manager. Many of the duties in fulfilling this responsibility will be delegated to other managers within the ESE organization.

This responsibility includes, but is not limited to, the following:

- Act as the principal contact between OHM and ESE

- Support the Laboratory Coordinator to ensure that all analytical data are collected under in-control conditions

- Submit the weekly QC report through the OHM Project Manager to the COE Representative

- Upon notification by the OHM Project Manager of samples to be received, inform the Laboratory Coordinator of sample arrivals so the required analyses can be scheduled into the laboratory workload in such a manner as to meet the QC requirements contained in the CQCP

- Submit to the OHM Project Manager all pertinent information produced by ESE necessary to prepare the Draft and Final Reports for the WVOW project

- Track all samples and analyses that are submitted to ESE to verify that all work is being accomplished in a timely manner

- Support the Laboratory Coordinator, who coordinates sample transfer and analysis of all incoming samples from the field to the laboratory; the Laboratory Coordinator reports to the Laboratory Manager

- Support the Laboratory Coordinator to ensure the completion of the subcontracted work for WVOW is accomplished in a timely manner

- Provide sufficient equipment, space, resources, and personnel to conduct analyses and provide proper data submission to the USATHAMA Installation Restoration Data Management System (IRDMS)

- With the assistance of the Laboratory Coordinator, submit, through the OHM Project Manager to the COE Representative, the required documented methods and data packages for completion of the Certipak certification process prior to analyzing field samples

- Verify that sampling procedures are adequate for the sample types received

- Oversee the quality of purchased laboratory materials, reagents, and chemicals to verify that these supplies do not jeopardize the quality of analytical results

- Ensure implementation of corrective action for any QA/QC deficiencies.

2.3.2 Laboratory Coordinator

The Laboratory Coordinator has the responsibility within the laboratory to establish, oversee, and audit specific

procedures for documenting and controlling analytical data quality. Many of the procedures may be implemented by other individuals, but the Laboratory Coordinator must monitor that procedures are being implemented properly and the results interpreted correctly. The Laboratory Coordinator's responsibilities include, but are not limited to the following:

- Monitor the QA and QC activities of the laboratory to verify conformance with authorized policies, procedures, and sound practices, and recommend improvements as necessary.

- Inform the OHM Project Manager, ESE Laboratory Manager, and ESE laboratory management of any nonconformance to their QA/QC program.

- Request analytical reference materials from USATHAMA or the COE, as needed, through the OHM Project Manager.

- Verify that all records, logs, standard procedures, project plans, and analytical results are maintained in a retrievable fashion.

- Verify that copies of standard procedures and project plans are distributed to all laboratory personnel involved in the project.

- Establish with the analysts, laboratory management, and the Laboratory Manager, the correct analytical lot size, the correct QC samples to be included in each lot, and the correct procedures for evaluating acceptable, in-control analytical performance.

- Verify that sampling is conducted in a manner consistent with the CQCP and other applicable USATHAMA guidelines. This responsibility includes providing for a one-day QA audit at the site to inspect the sampling and coordinating with the OHM Project Manager, the OHM QC Engineer, and the ESE Laboratory Manager as to the trip date and the name of the QA auditor. Each major type of sampling (e.g., water, soil) will be inspected at least once during the audit. The Laboratory Coordinator will document the inspection and verify that procedures described in the Scope of Work and Sampling Plan, are followed. After obtaining approval from the COE Representative through the OHM Project Manager, the Laboratory

Coordinator has the authority to require resampling of any site whose sample integrity was determined to have been affected by faulty sampling procedures.

- Verify that logging of received samples includes establishing appropriate lot size for each analysis and allocating sample numbers for the correct control samples in each lot.

- Review all laboratory data before those data are transmitted to permanent storage, reported to other project participants, or submitted via the USATHAMA IRDMS. Before data are released, the Laboratory Coordinator must have completed a checklist and inspected calibration data control charts and other performance indicators to verify that the data were collected under conditions consistent with laboratory certification and that analytical systems were in control.

- Verify that analysts are preparing QC samples, maintaining control charts, and implementing and documenting corrective action when necessary.

- Verify that all sampling logs, instrument logs, and QC documents are maintained, are completed with the required information, and are documented at the required frequency.

- Review control charts produced by the data management group on a daily basis, discuss control chart results with the ESE Laboratory Manager and submit the charts to the COE Representative on a weekly basis through the OHM Project Manager.

- Maintain an awareness of the entire laboratory operation to detect conditions which may directly or indirectly jeopardize controls of the various analytical systems (i.e., improper calibration of equipment, gross contamination through improper storage of samples).

- Audit sampling documentation and procedures to ensure that samples are labeled, preserved, stored, and transported according to prescribed methods.

TABLE

TABLE 2-1

MAJOR PHASES OF WORK

WORK PLAN DEVELOPMENT AND APPROVAL (PREPLANNING)

TOPOGRAPHIC SURVEY

SAMPLING AND ANALYTICAL

SITE PREPARATION/SETUP

- o EXCAVATE FOR SEDIMENTATION BASIN/CONSTRUCT DIKE
- o DECONTAMINATION OF DIVERSION STRUCTURE/SEWER LINE
- o DEMOLITION OF HOUSE

CONSTRUCT SEDIMENT BASIN

DEWATERING OF POND NOS. 1 AND 2

CLEARING AND GRUBBING

POND STABILIZATION

PLACEMENT OF RANDOM FILL

CONSTRUCT HAUL ROAD FOR BORROW PIT

MAINTAIN HAUL ROADS

PLACEMENT OF CLAY CAP

TOPSOIL PLACEMENT

DEMOBILIZATION

- o DECONTAMINATION OF EQUIPMENT
- o SITE RESTORATION

FIGURES

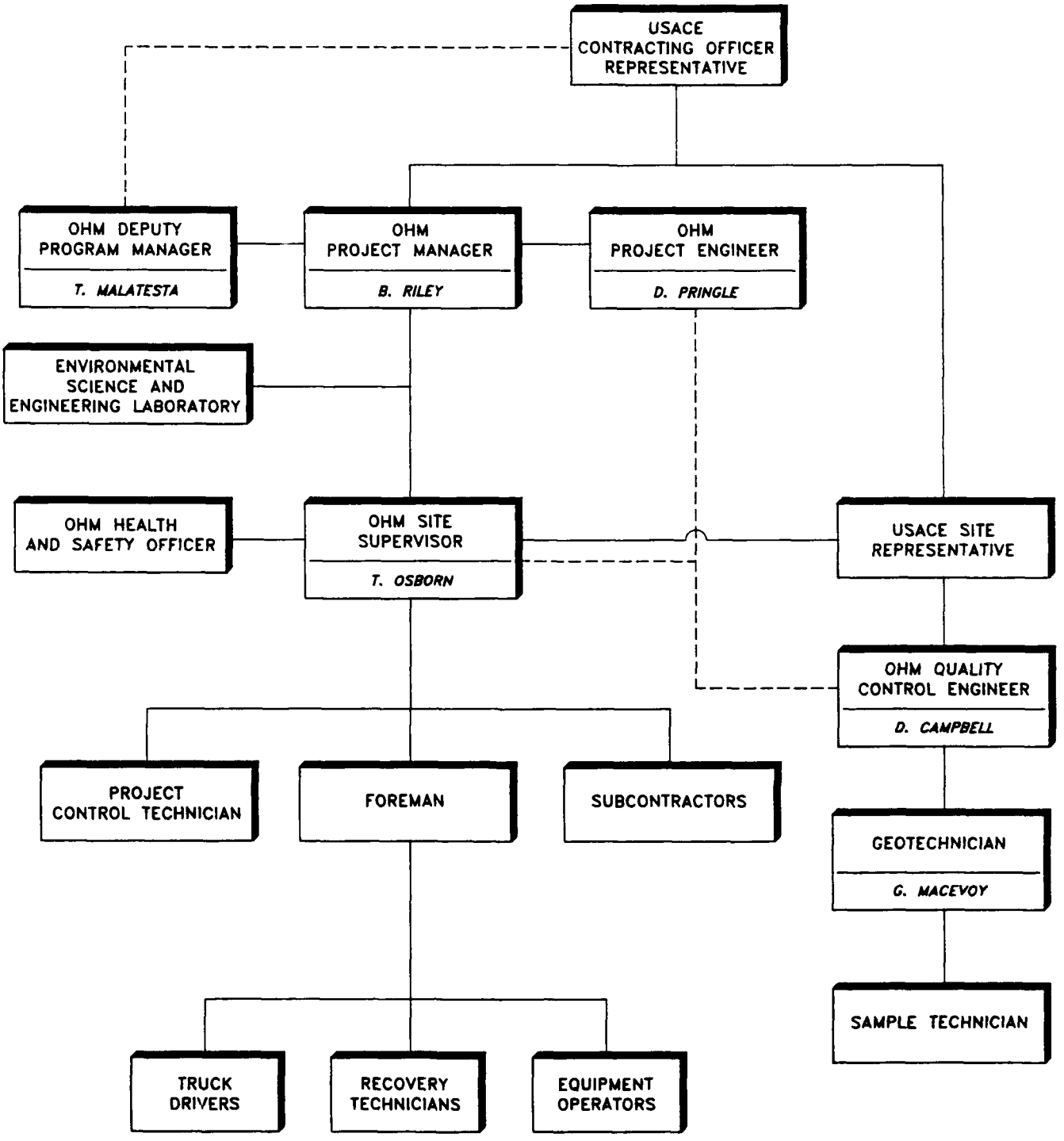


FIGURE 2-1

PROPOSED
PROJECT ORGANIZATION CHART
FORMER WEST VIRGINIA ORDNANCE WORKS
POINT PLEASANT, WEST VIRGINIA

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

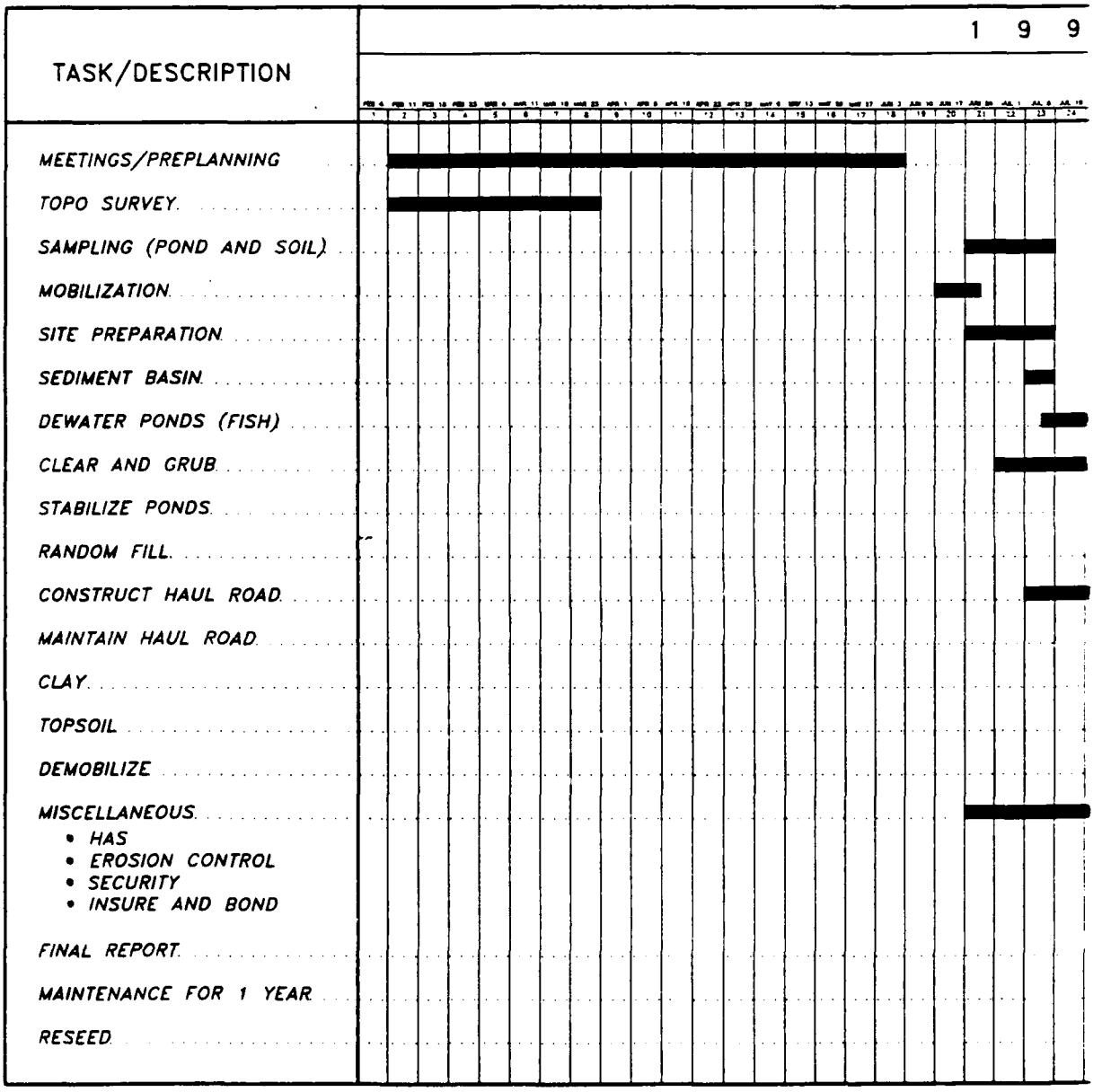
OHM Corporation

OHM CORPORATION
PITTSBURGH, PA

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
A.C.Smith 2-28-91		6-14-91	9715-A3

OHM CORPORATION PITTSBURGH, PA	DRAWN BY B.O'Connor 7-16-91	CHECKED BY [illegible] 7-16-91	APPROVED BY [illegible] 7-16-91	DRAWING NUMBER 9715-B1

PLOT SCALE: 1" = 1'



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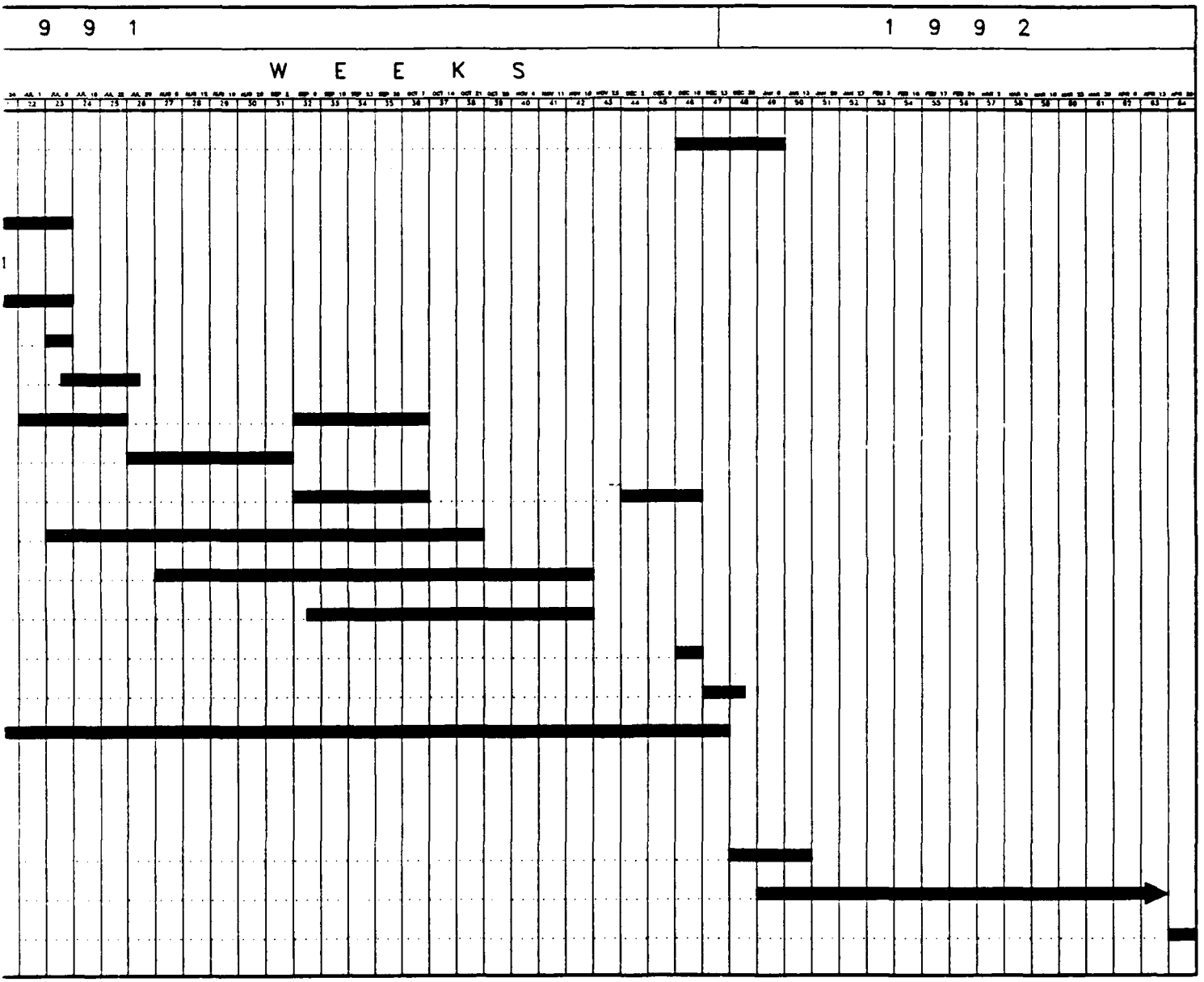

FIGURE 2-2

PROJECT SCHEDULE
FORMER WEST VIRGINIA ORDNANCE WORKS
POINT PLEASANT, WEST VIRGINIA

PREPARED FOR

U.S. ARMY CORPS OF ENGINEERS
HUNTINGTON DISTRICT
HUNTINGTON, WEST VIRGINIA

OHM Corporation